TEST RESULTS OF GRADATION FOR GSB
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	CP-RW-2017-11-08-01	**Date: 10-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore	
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore	
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03	
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	08-11-2017	
Sample ID No	:	2017-11-08-01-01	
Type of Mix	:	GSB (Granular Sub Base)	
Date of test	:	08-11-2017	
Oven Dry Weight	:	10120	Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec. Limit Vide Table 400.1 MORTH Specification
75	0	0	0	100	100
53	994	994	9.82	90.18	80-100
26.5	1680	2674	26.42	73.58	55-90
9.5	1290	3964	39.17	60.83	35-65
4.75	1485	5449	53.84	46.16	25-55
2.36	1794	7243	71.57	28.43	20-40
0.425	1686	8929	88.23	11.77	10-25
0.075	896	9825	97.08	2.92	0-5

TESTS ON FILLER SCREEN MATERIALS

Sl no	Particulars	Test results	Spec.Limit Vide Table 400.2 MORTH Specification
1	Liquid Limit, %	21.53%	Maximum 25
2	Plasticity index, %	Non plastic	Maximum 6

Note:-
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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

AE-DJ

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF AGGEGRATE IMPACT VALUE

IS: 2386 Part IV

Lab ID	:	**CP-RW-2017-11-09-01**	**Date: 11-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.	
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.	
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara	
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	09-11-2017	
Sample ID No	:	2017-11-09-01-01	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	09-11-2017	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.5	72.9
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	226.1	226.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.6	0.5
5	Aggregate impact value	(B/A)*100	24.5	24.3
6	Aggregate impact value (Mean of two tests)	Pecentage	24.4	

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R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-11-09-01** **Date: 11-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	09-11-2017
Sample ID No	:	2017-11-09-01-01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	09-11-2017

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.5%	
Combined Flakiness and Elongation Index for WMM	22.3%	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	CP-RW-2017-11-09-01	**Date: 11-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.	
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.	
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03	
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	09-11-2017	
Sample ID No	:	2017-11-09-01-01	
Type of Mix	:	WMM (Wet Mix Macadam)	
Date of test	:	09-11-2017	
Oven Dry Weight	:	11000	Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	320	320	2.9	97.1	95-100
22.4	2265	2585	23.5	76.5	60-80
11.2	2185	4770	43.4	56.6	40-60
4.75	2255	7025	63.9	36.1	25-40
2.36	1627	8652	78.7	21.3	15-30
0.6	628	9280	84.4	15.6	8-22
0.075	1338	10618	96.5	3.5	0-5

Note:-

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-2017-11-13-02** **Date: 14-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	13-11-2017
Sample ID No	:	2017-11-13-02-01
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	13-11-2017

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	68	60 to 70
2	Softening Point, °C	49	Min. 40°C
3	Ductility, cm	96	Min. 75cm
4	Flash point, °C	248	Min. 220°C
	Fire point, °C	269	

Note:
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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID	:	**CP-RW-2017-11-15-01** **Date: 18-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-11-2017
Sample ID No	:	2017-11-15-01-01
Type of Mix	:	DBM (Dense Bituminous Macadam)
Date of test	:	15-11-2017

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.5	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	11.6		
Strength	Aggregate Impact Value	24.2	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.69	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

Note:
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Quallity Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2017-11-15-01** **Date: 17-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP,
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-11-2017
Sample ID No	:	2017-11-15-01-01
Type of Mix	:	DBM-Plant (Dense Bituminous Macadam)
Date of test	:	15-11-2017
Weight of Sample	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	172	172	3.44	96.56	90-100
19	1015	1187	23.74	76.26	71-95
13.2	525	1712	34.24	65.76	56-80
4.75	1154	2866	57.32	42.68	38-54
2.36	710	3576	71.52	28.48	28-42
0.3	1063	4639	92.78	7.22	7-21
0.075	292	4931	98.62	1.38	2-8
PAN	69	5000	0.00	0	0

Note:-

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2017-11-15-01** **Date: 18-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-11-2017
Sample ID No	:	2017-11-15-01-01
Type of Mix	:	DBM(Dense Bitumnous Macadam)
Date of test	:	15-11-2017

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

Note:
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Quality Manager

Page 1/1
****End of Report****

TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-11-15-01** **Date: 18-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	15-11-2017
Sample ID No	:	2017-11-15-01-01
Type of Mix	:	DBM (Dense Bituminous Mecadam)
Date of test	:	15-11-2017

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

Note:-

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FOR CIVIL Pro.
R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	CP-RW-2017-11-20-02	**Date: 22-11-2017**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore	
Address	:	Yelahanka New Town Sub Division, BBMP, Bangalore	
Project Name	:	Improvements and Asphalting of Roads and Drains at Thirumalanagara ABCD Blocked in ward No.03	
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/116/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	20-11-2017	
Sample ID No	:	2017-11-20-02-01	
Type of Mix	:	BC-Plant (Bituminous Concrete)	
Date of test	:	20-11-2017	
Oven Dry Weight	:	5000 Grams	

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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